

METHOD FOR FABRICATING A THICK Ti64 ALLOY ARTICLE
TO HAVE A HIGHER SURFACE YIELD AND TENSILE STRENGTHS
AND A LOWER CENTERLINE YIELD AND TENSILE STRENGTHS

ABSTRACT OF THE DISCLOSURE

A Ti-6Al-4V-0.2O (Ti64) forged article is fabricated by forging a workpiece to make a forged gas turbine engine component having a thick portion thereof with a section thickness greater than 2-1/4 inches. The forged article is heat treated by solution heat treating at a temperature of from about 50°F to about 75°F below the beta-transus temperature of the alloy, thereafter water quenching the gas turbine engine component to room temperature, and thereafter aging the gas turbine engine component at a temperature of from about 900°F to about 1000°F. The resulting machined gas turbine engine component has a 0.2 percent yield strength of from about 120 ksi to about 140 ksi at its centerline, and a 0.2 percent yield strength of from about 160 ksi to about 175 ksi at a location about 1/2 inch below a surface thereof.